



1

FIG. 3a is a block diagram of a transmitter system. The system includes a DS_f GENERATOR (11) and an INVERSE FOURIER TRANSFORMER (12). The DS_f GENERATOR (11) receives TRANSMITTED DATA and outputs a signal to the INVERSE FOURIER TRANSFORMER (12). The INVERSE FOURIER TRANSFORMER (12) outputs the OFDM DATA SYMBOL. The entire system is enclosed in a dashed box labeled 1.

FIG. 3 a

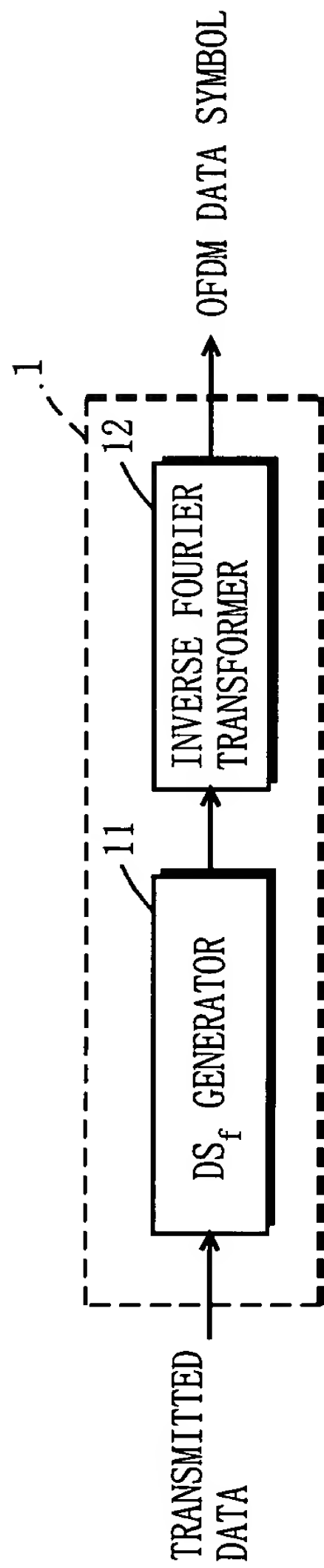


FIG. 3 b

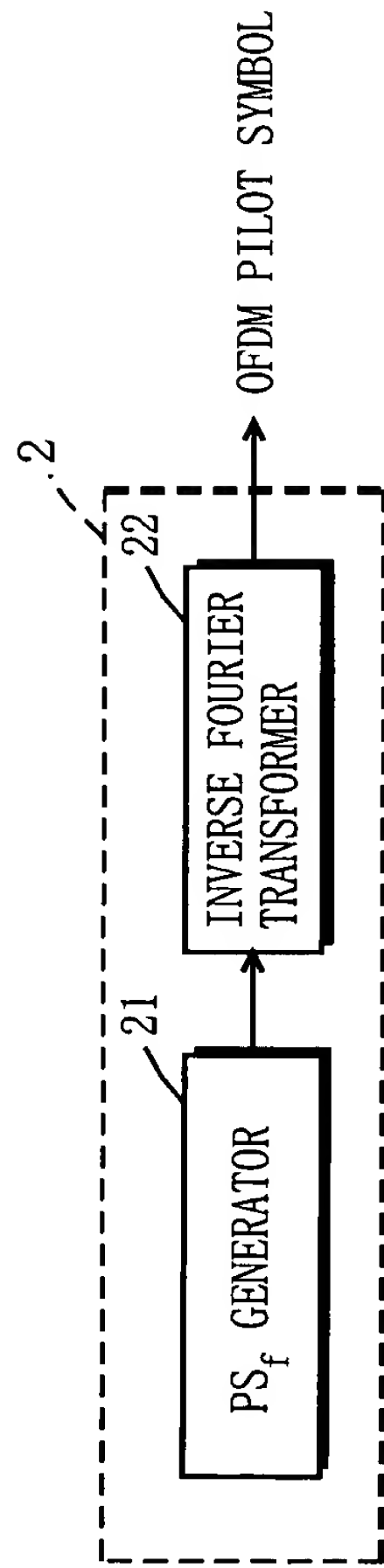


FIG. 4

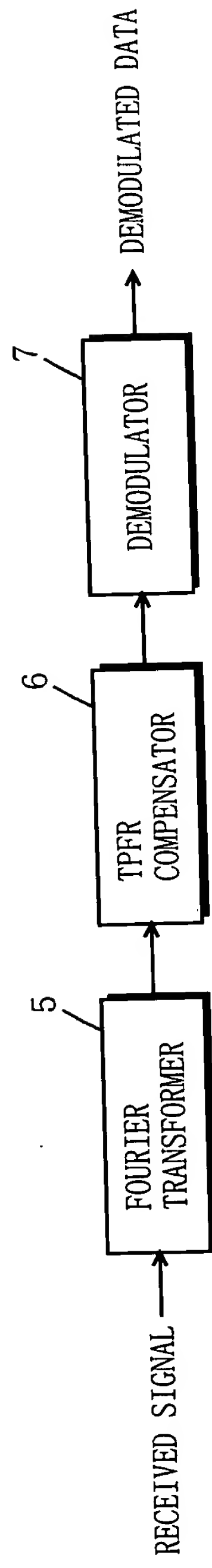
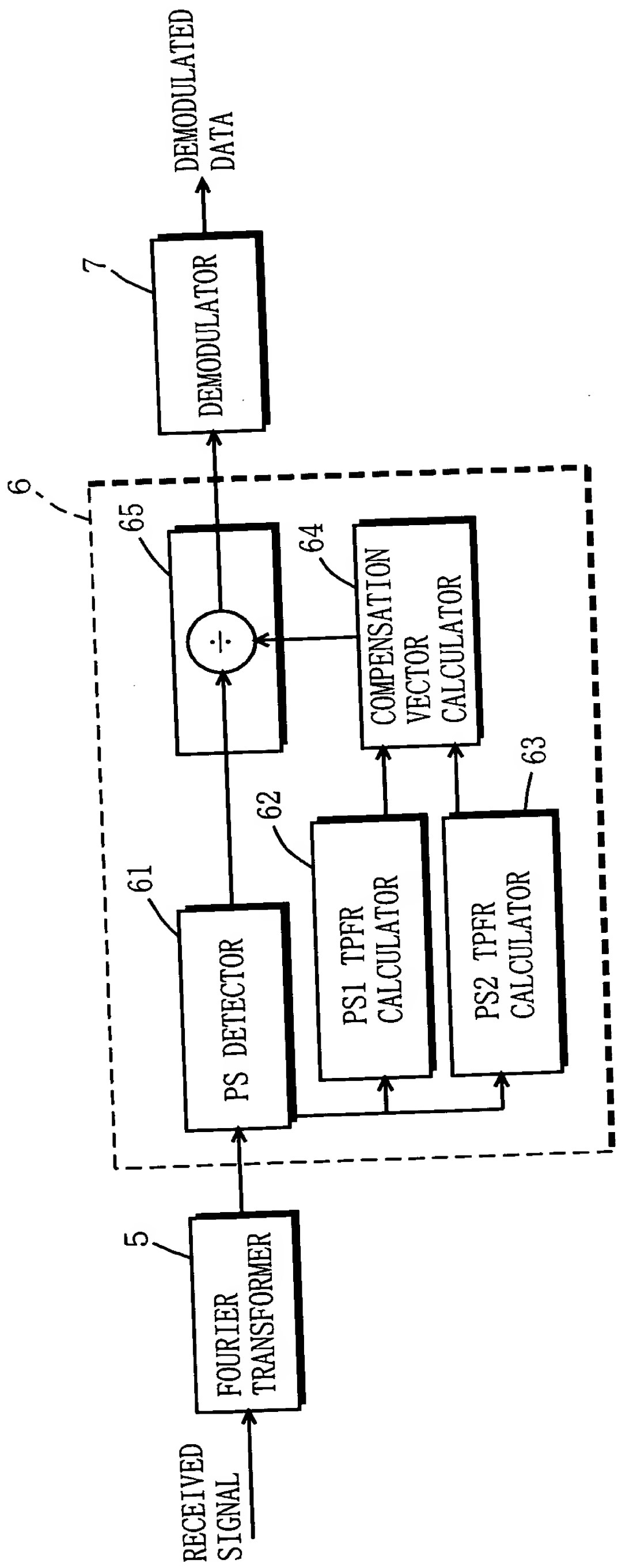
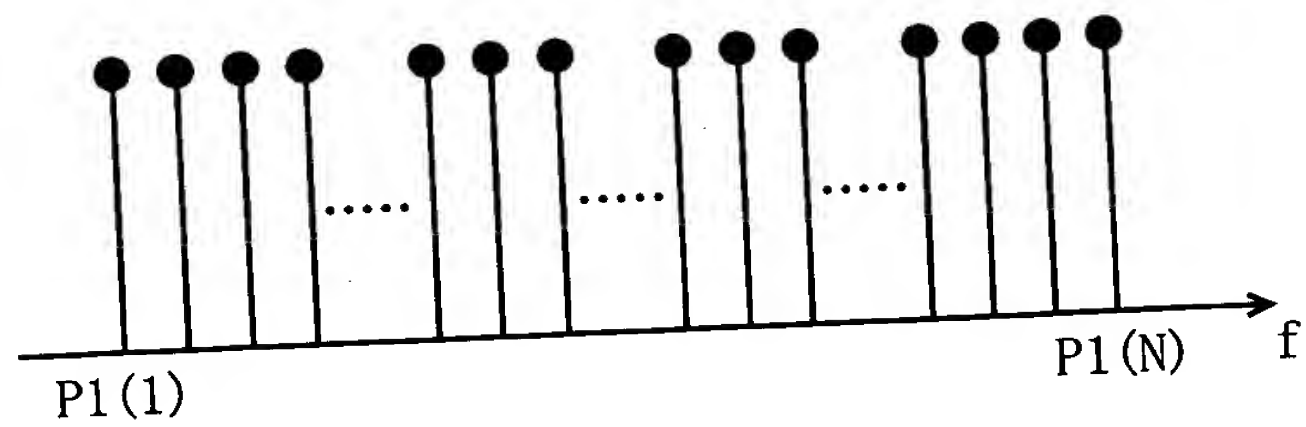


FIG. 5 is a block diagram of a demodulation system. The system includes a Fourier Transformer (5) which receives a RECEIVED SIGNAL. The output of the Fourier Transformer (5) is fed into a PS DETECTOR (61). The PS DETECTOR (61) is connected to two parallel processing paths: a PS1 TPFR CALCULATOR (62) and a PS2 TPFR CALCULATOR (63). The outputs of these two calculators are fed into a COMPENSATION VECTOR CALCULATOR (64). The output of the COMPENSATION VECTOR CALCULATOR (64) is fed into a divider (65). The output of the divider (65) is fed into a DEMODULATOR (7), which produces the final DEMODULATED DATA.

FIG. 5

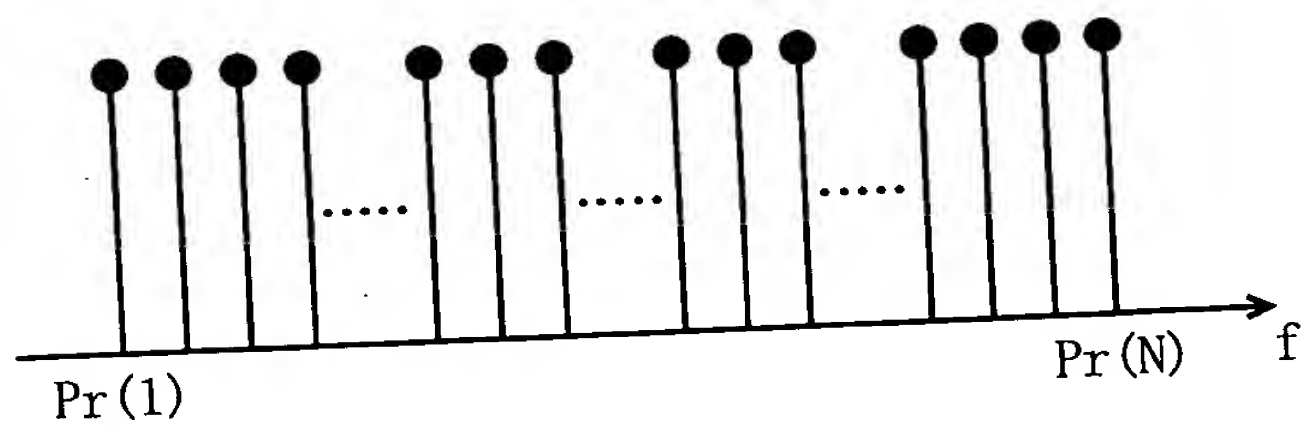


F I G. 6 a



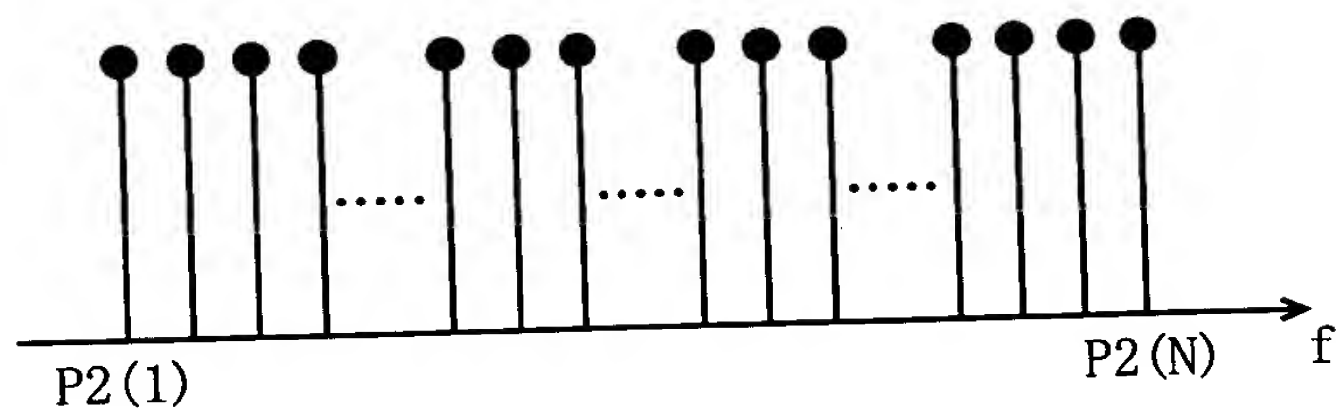
FIRST PILOT SYMBOL

F I G. 6 b



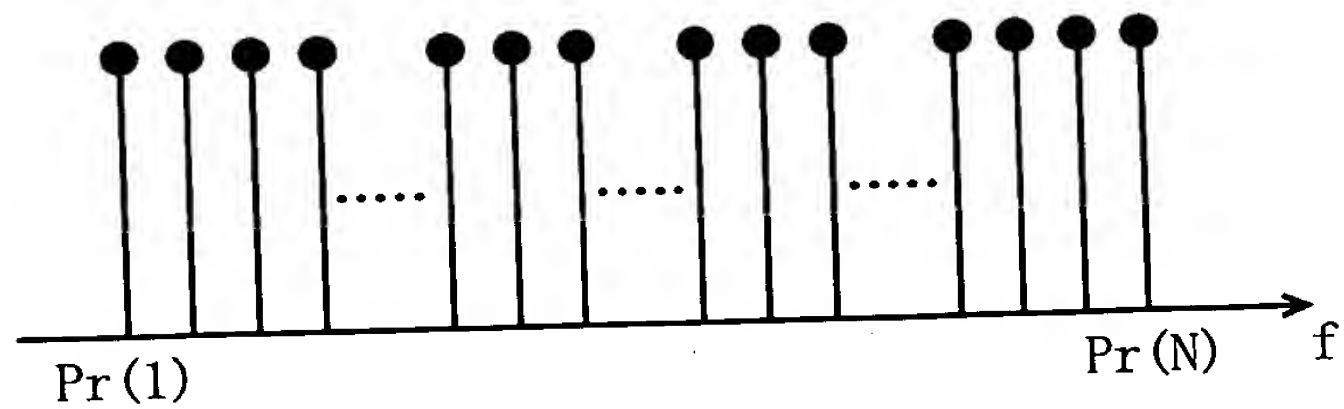
REFERENCE PILOT SYMBOL

F I G . 7 a



SECOND PILOT SYMBOL

F I G . 7 b



REFERENCE PILOT SYMBOL

COMPENSATION VECTOR

SECOND PILOT SYMBOL TRANSMISSION PATH
FREQUENCY RESPONSE Pb

COMPENSATION VECTOR FOR FOURTH DATA SYMBOL V4

COMPENSATION VECTOR FOR THIRD DATA SYMBOL V3

COMPENSATION VECTOR FOR SECOND DATA SYMBOL V2

COMPENSATION VECTOR FOR FIRST DATA SYMBOL V1

FIRST PILOT SYMBOL TRANSMISSION PATH
FREQUENCY RESPONSE Pa

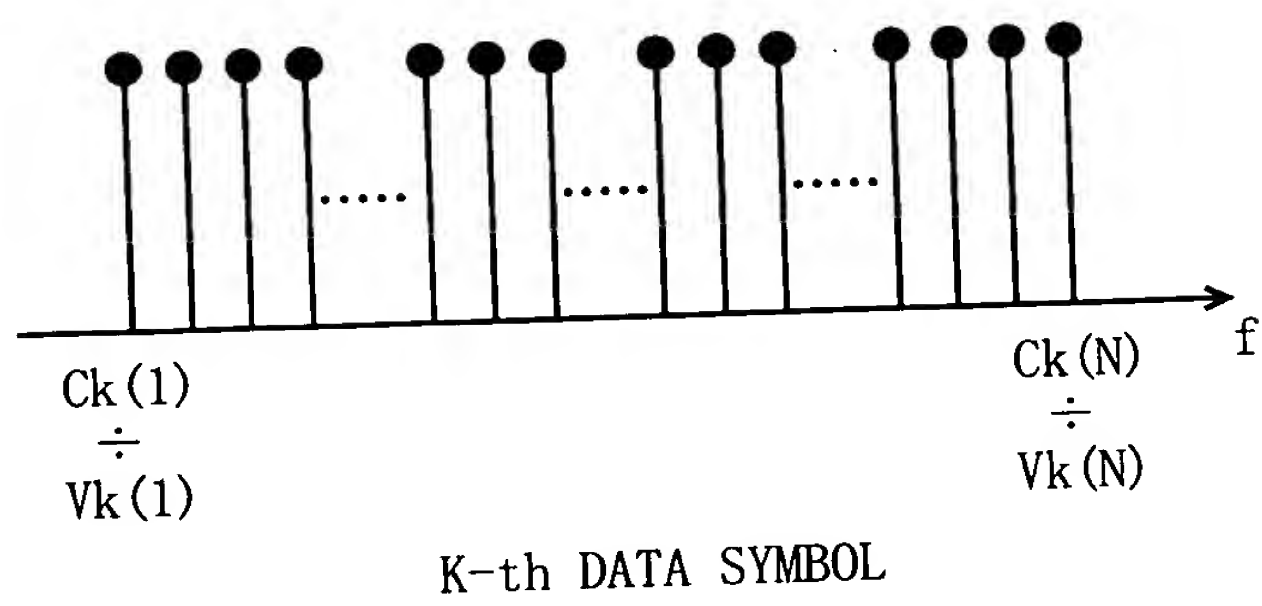
LINEAR APPROXIMATION

SYMBOL

FIRST PILOT SYMBOL

SECOND PILOT SYMBOL

F I G . 9



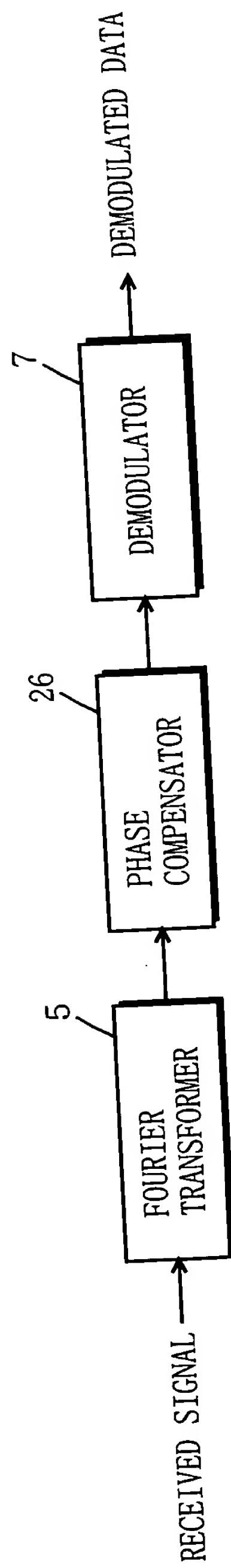
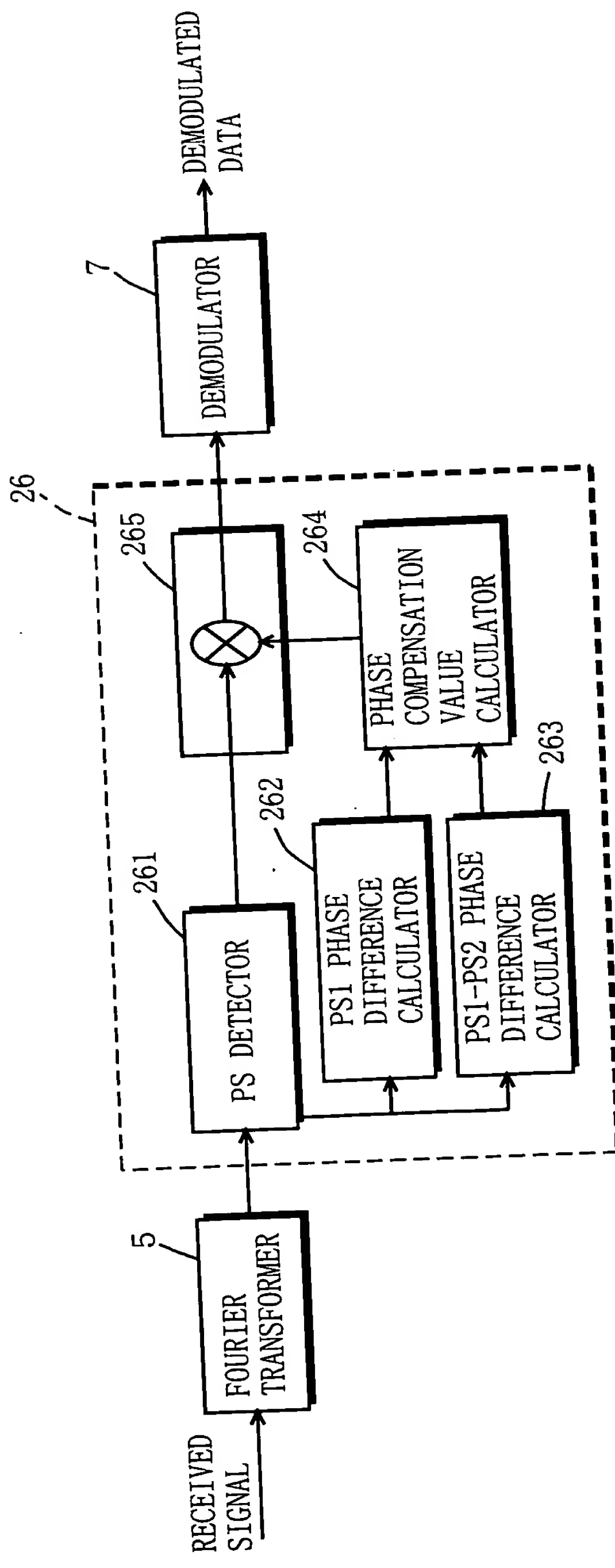


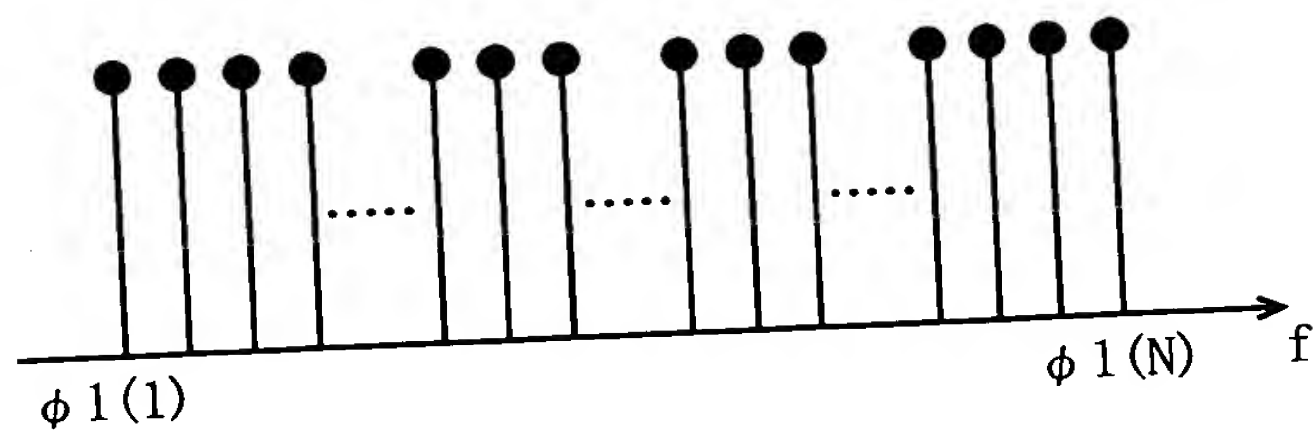
FIG. 10

FIG. 11 is a block diagram of a demodulation system. The system includes a received signal input to a Fourier transformer (5), which outputs to a PS detector (261). The PS detector (261) outputs to a PS1 phase difference calculator (262) and a PS1-PS2 phase difference calculator (263). The PS1 phase difference calculator (262) outputs to a phase compensation value calculator (264). The phase compensation value calculator (264) outputs to a multiplier (265). The multiplier (265) outputs to a demodulator (7), which outputs demodulated data.

FIG. 11

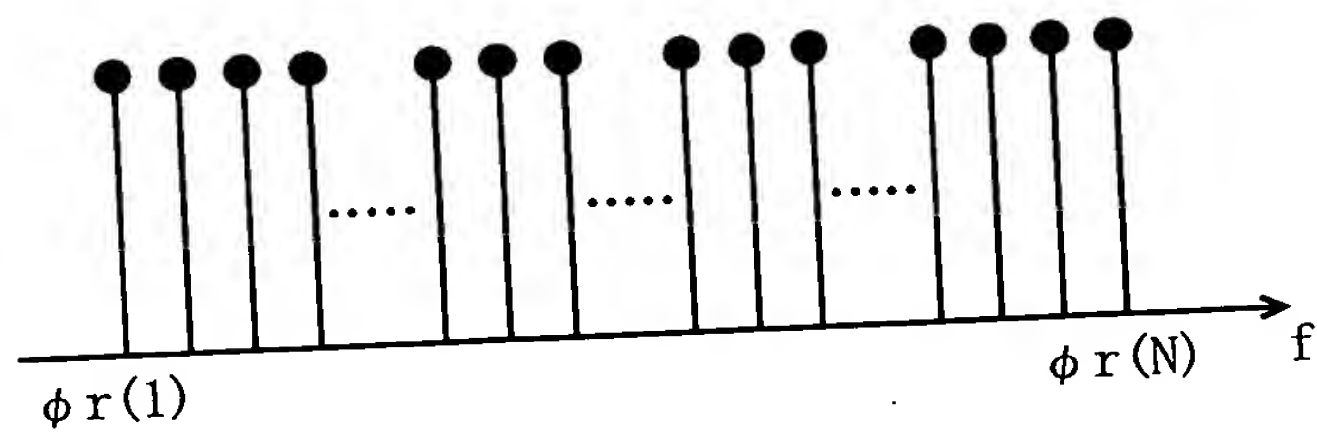


F I G. 1 2 a



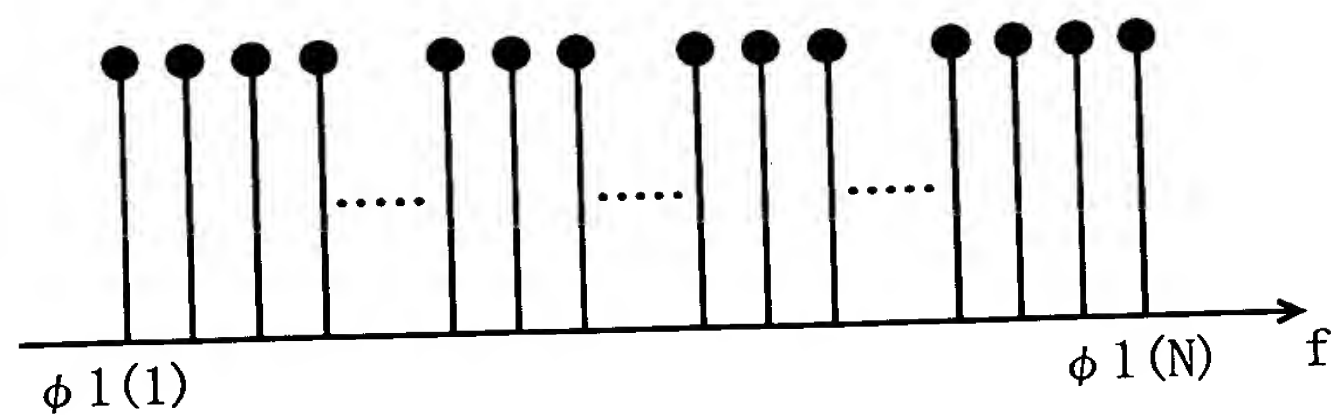
FIRST PILOT SYMBOL

F I G. 1 2 b



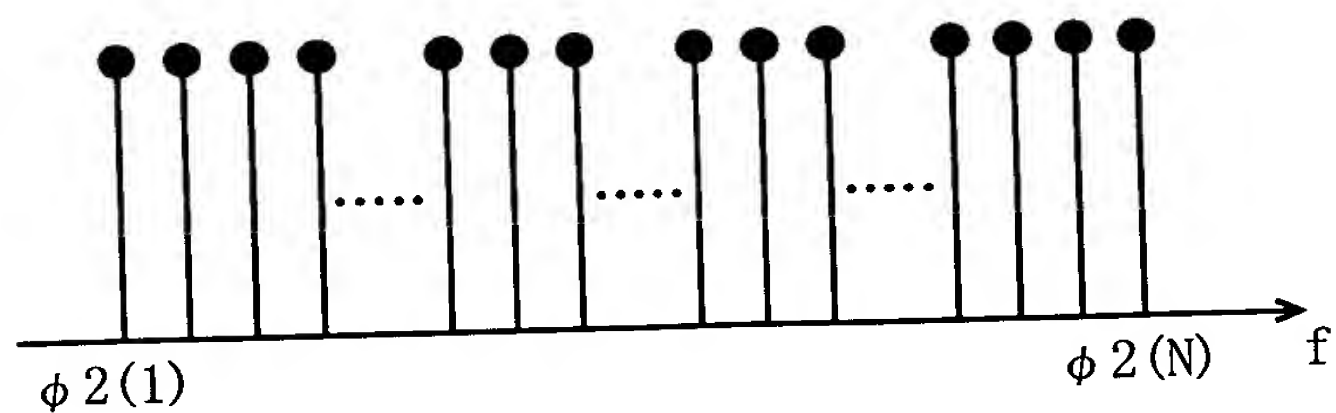
REFERENCE PILOT SYMBOL

F I G . 1 3 a



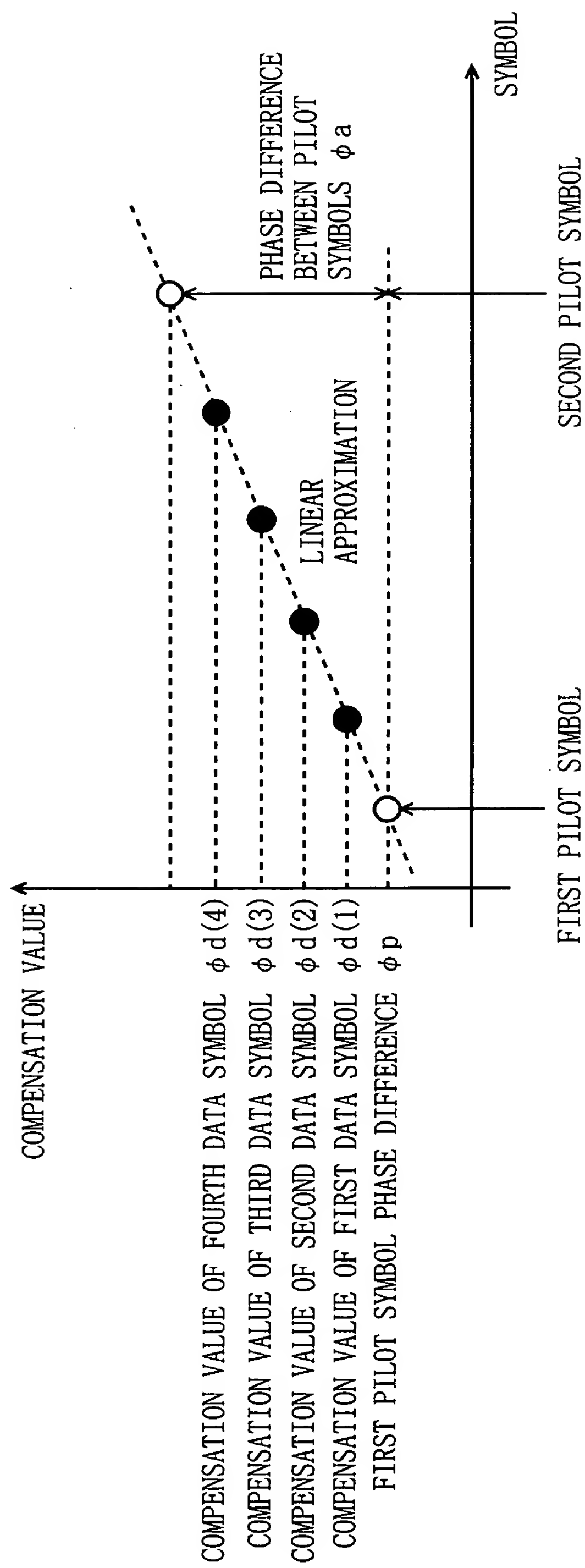
FIRST PILOT SYMBOL

F I G . 1 3 b



SECOND PILOT SYMBOL

FIG. 14



F I G. 1 5

